

## **MEDICAL CONTROL GUIDELINE: VENTRICULAR ASSIST DEVICE**

### **PRINCIPLES:**

1. A Ventricular Assist Device (VAD) is an implanted device that is used to partially or completely replace the function of a failing heart in adults and children. VADs are used as a bridge to transplant or as a destination therapy for those who are not transplant candidates.
2. All VAD patients have a VAD Coordinator who is available 24 hours a day and will give direction on managing the VAD machine. Contact information for the VAD Coordinator may be located on the VAD controller (sticker on the device), refrigerator, medical-alert bracelet or on a card in the patient's wallet.
3. The patient and family members receive extensive training on their specific VAD and should be utilized in the care of the VAD patient.
4. Due to the continuous (non-pulsatile) flow of these devices, vital signs such as blood pressure, heart rate, and pulse oximetry are unobtainable or unreliable and perfusion status should be based on the clinical exam. Sidestream or mainstream capnography will read accurately and can provide valuable information on the patient's perfusion status.
5. Many VAD patients are on anticoagulants and prone to bleeding.
6. VADs are preload dependent.
7. All VAD patients can be defibrillated and cardioverted, if indicated.
8. Chest compressions may dislodge the internal VAD tubes from the heart, causing the patient to bleed into the thoracic and/or abdominal cavities; however, chest compression can be performed if needed.
9. Most VAD patient emergencies will NOT be related to the functioning of the device.

### **GUIDELINES:**

1. Call the appropriate VAD Coordinator. Most VAD patients meet base contact criteria (Ref. No. 808) and/or if additional orders are required, contact the base hospital.
2. Utilize other clinical parameters for patient assessment (e.g., skin signs, level of consciousness and general appearance) because VAD patients will not have a blood pressure and/or palpable pulse.
3. Treat VAD patients by the appropriate treatment guideline or protocol based on the patient's assessment and findings.
4. Attempt to locate a standardized Patient Designated Directive and/or a POLST. Many

VAD patients have made end-of-life care decisions.

5. Given that VADs are preload dependent, consider administering fluids early (250-500 cc) and do not administer nitroglycerin. Give only aspirin and morphine or fentanyl when treating chest pain presumed secondary to acute coronary syndrome (ACS)
6. The patient's underlying rhythm only requires treatment if the patient has signs of poor perfusion. VAD patients may have an Implanted Cardioverter Defibrillator (ICD) or a Pacemaker/ICD. If external defibrillator or cardioversion is necessary, apply the pads as to avoid the Pacemaker/ICD and use the standard amount of energy. **DO NOT** disconnect the system controller from the percutaneous lead (driveline) or stop the pump prior to delivering the shock.
7. In the event of pump failure, attempt to troubleshoot the device with a VAD coordinator. Only if the pump cannot be fixed should chest compressions be initiated as per patient's Advanced Health Care Directive or Standardized Patient-Designated Directives (e.g., POLST, State DNR Form).
8. Make sure all equipment is safely secured prior to transport to ensure that the driveline is not pulled or cut during transport. Spinal motion restriction and/or splinting may be modified to protect the integrity of the VAD equipment.
9. When a VAD patient is experiencing signs and symptoms related to the VAD, every effort should be made to transport the patient to a VAD hospital. Allow the family member or caregiver to ride with the patient if treatment and space permit.